1991 *Journal of Thermophysics and Heat Transfer* Index

How to Use the Index

In the Subject Index, pages 631–634, each technical paper is listed under a maximum of three appropriate headings. Note the number in boldface type following each paper title, and use that number to locate the paper in the Chronological Index. The Author Index, page 635, lists all authors associated with a given technical paper. The locating numbers are identical to those in the Subject Index. The Chronological Index, pages 636–639, lists all papers by their unique code numbers. This listing contains titles, authors and their affiliations, and volume, issue number, and page where the paper appeared. It also gives the AIAA paper number, if any, on which the article was based, as well as the "CP" or conference volume number if the paper was published in a bound collection of meeting papers. Comments, Replies, and Errata are listed directly beneath the paper to which they refer. If the paper to which they refer was published prior to 1991, that paper also will appear in both the Subject and Chronological Indexes. Authors of Comments also are listed in the Author Index.

Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerospace Plane

Three-Dimensional, Upwind, Parabolized Navier-Stokes Code for Chemically Reacting Flows **T91-042**

Safety

Modeling of Surface Roughness Effects on Glaze Ice Accretion **T91-007**

Energy

Magnetohydrodynamic Power Generation

Modification of COMMIX-1B for Simulation of Thermal- and Flowfields in Ultrahigh Temperature Vapor Core Reactor **T91-035**

Solar Power

Experimental Study of Enhanced Melting Process Under Ultrasonic Influence **T91-050**

Fluid Dynamics

Boundary Layers and Heat Transfer—Laminar

Convective Heat Transfer Across a Duct with Asymmetric Blowing **T91-091**
Aeroassist Flight Experiment Heating-Rate Sensitivity Study **T91-068**
Recombination-Dominated Nonequilibrium Heat Transfer to Arbitrarily Catalytic Hypersonic Vehicles **T91-067**
Heat Transfer to a Power Law Non-Newtonian Falling Liquid Film **T91-065**
Mixed Convection of Opposing/Assisting Flows in Vertical Channels with Discrete Asymmetrically Heated Ribs **T91-060**
Natural Convective Flow Instability Between Horizontal Concentric Cylinders **T91-059**
Numerical Simulation of Time-Dependent Heat Transfer in Oscillating Pipe Flow **T91-058**
Condensation in a Mixing Layer **T91-055**
Experimental and Predicted Pressure and Heating Distributions for Aeroassist Flight Experiment Vehicle **T91-045**
Laminar Flow and Heat Transfer in a Channel with Lateral Injection **T91-039**
Effects of Geometry and Orientation on Laminar Natural Convection from Isothermal Bodies **T91-030**

Boundary Layers and Heat Transfer—Turbulent

Mixed Convection of Opposing/Assisting Flows in Vertical Channels with Discrete Asymmetrically Heated Ribs **T91-060**
Heterogeneous and Nonisothermal Mixing of a Lateral Jet with a Swirling Crossflow **T91-057**
Jet-Wake Thermal Characteristics of Heated Turbulent Jets in Crossflow **T91-027**
Large Eddy Simulation of the Flow in a Transpired Channel **T91-019**

Boundary-Layer Stability and Transition

Mixed Convection of Opposing/Assisting Flows in Vertical Channels with Discrete Asymmetrically Heated Ribs **T91-060**
Linear Oscillatory Cellular Thermocapillary Convection in Liquid Layers **T91-013**

Computational Fluid Dynamics

Thermocapillary Convection in a Model Float Zone **T91-083**
Heterogeneous and Nonisothermal Mixing of a Lateral Jet with a Swirling Crossflow **T91-057**
Experimental and Predicted Pressure and Heating Distributions for Aeroassist Flight Experiment Vehicle **T91-045**
Three-Dimensional, Upwind, Parabolized Navier-Stokes Code for Chemically Reacting Flows **T91-042**
Probability of Inelastic Collisions for the Larsen-Borgnakke Model to the Monte Carlo Simulation Method **T91-038**
Numerical Solution of Convection-Diffusion Problems in Irregular Domains Mapped onto a Circle **T91-014**
Calculation of Fully Developed Flow and Heat Transfer in Streamwise-Periodic Dimpled Channels **T91-011**

Hydrodynamics

Experimental Verification of Darcy-Brinkman-Forchheimer Flow Model for Natural Convection in Porous Media **T91-082**

Hypersonic Flow

Model for Oxygen Recombination on Silicon-Dioxide Surfaces **T91-043**
Effect of Nose Bluntness on Flowfield Over Slender Bodies in Hypersonic Flows **T91-025**
Effect of Electron Temperature and Impact Ionization on Martian Return AOTV Flowfields **T91-001**

Inlet, Nozzle, Diffusor, and Channel Flows

Large Eddy Simulation of the Flow in a Transpired Channel **T91-019**

Jets, Wakes, and Viscid-Inviscid Flow Interactions

Analysis of Direct Liquid-Solid Contact Heat Transfer in Monodispersed Spray Cooling **T91-088**
Jet-Wake Thermal Characteristics of Heated Turbulent Jets in Crossflow **T91-027**
Numerical Model for Turbulent Jets Impinging on a Surface with Throughflow **T91-026**

Multiphase Flows

Detailed Model for Transient Liquid Flow in Heat Pipe Wicks **T91-078**
Measurements and Correlation of Two-Phase Pressure Drop Under Microgravity Conditions **T91-076**
Experimental Study on Confined Two-Phase Jets **T91-056**
Condensation in a Mixing Layer **T91-055**
Effect of Gravity and Noncondensable Gas Levels on Condensation in Variable Conductance Heat Pipe **T91-008**

Plasmadynamics and MHD

Low-Pressure Plasma Spectroscopic Diagnostics **T91-071**

Progressive Wave Analysis Describing Wave Motions in Radiative Magnetogasdynamics T91-002

Rarefied Flows

Direct Simulation Monte Carlo Analysis of Rarefied Flows on Parallel Processors T91-044
Probability of Inelastic Collisions for the Larsen-Borgnakke Model to the Monte Carlo Simulation Method T91-038

Reacting Flows and Combustion

Recombination-Dominated Nonequilibrium Heat Transfer to Arbitrarily Catalytic Hypersonic Vehicles T91-067
Three-Dimensional, Upwind, Parabolized Navier-Stokes Code for Chemically Reacting Flows T91-042
Computation of Weakly Ionized Hypersonic Flows in Thermochemical Nonequilibrium T91-041
Modification of COMMIX-1B for Simulation of Thermal- and Flowfields in Ultrahigh Temperature Vapor Core Reactor T91-035

Separated Flows

Numerical Solution of Convection-Diffusion Problems in Irregular Domains Mapped onto a Circle T91-014

Shock Waves and Detonations

Progressive Wave Analysis Describing Wave Motions in Radiative Magnetogasdynamics T91-002

Subsonic Flow

Experimental Study on Confined Two-Phase Jets T91-056

Unsteady Flows

Heat Transfer Regimes in Nuclear-Reactor-Pumped Gas Lasers T91-047
Progressive Wave Analysis Describing Wave Motions in Radiative Magnetogasdynamics T91-002

Viscous Non-boundary-Layer Flows

Thermocapillary Convection in a Model Float Zone T91-083
Numerical Solution of Convection-Diffusion Problems in Irregular Domains Mapped onto a Circle T91-014

Interdisciplinary Topics

Analytical and Numerical Methods

Heat Transfer to a Power Law Non-Newtonian Falling Liquid Film T91-065

Atmospheric and Space Sciences

Titan Atmospheric Composition by Hypervelocity Shock-Layer Analysis T91-024
Modeling of Surface Roughness Effects on Glaze Ice Accretion T91-007

Lasers and Laser Applications

Heat Transfer Regimes in Nuclear-Reactor-Pumped Gas Lasers T91-047
Response of Laser Heat Exchangers to Unsteady Spatially Varying Input T91-010
Gas-Assisted Laser-Metal Drillng: Theoretical Model T91-004
Gas-Assisted Laser-Metal Drilling: Experimental Results T91-003

Launch Vehicle and Missile (LV/M) Technology

Thermal Protection Systems

Convective Heat Transfer Across a Duct with Asymmetric Blowing T91-091

Propulsion

Combustion and Combustor Designs

Transport Processes and Associated Irreversibilities in Droplet Evaporation T91-053

Electric and Advanced Space Propulsion

Low-Pressure Plasma Spectroscopic Diagnostics T91-071

Solid Rocket Motors and Missile Systems

Optical Constants of Al_2O_3 Smoke in Propellant Flames T91-022

Space Technology

Aerobraking Configurations/ Aerothermodynamics

Experimental and Predicted Pressure and Heating Distributions for Aeroassist Flight Experiment Vehicle T91-045

Space Systems

Aeroassist Flight Experiment Heating-Rate Sensitivity Study T91-068
Recombination-Dominated Nonequilibrium Heat Transfer to Arbitrarily Catalytic Hypersonic Vehicles T91-067

Spacecraft Thermal Management

Detailed Model for Transient Liquid Flow in Heat Pipe Wicks T91-078

Structural Mechanics and Materials

Thermal Effects

Evaluation of an Adaptive Unstructured Remeshing Technique for Integrated Fluid-Thermal-Structural Analysis T91-086
Multilayer Thermally Insulating Ceramic Contacts T91-062

Thermophysics and Heat Transfer

Ablation, Pyrolysis, Thermal Decomposition and Degradation

Enthalpy Method for Ablation-Type Moving Boundary Problems T91-034

Aerothermodynamics/ Thermal Protection

Adaptive Finite Element Analysis of Hypersonic Laminar Flows for Aerothermal Load Predictions T91-046
Model for Oxygen Recombination on Silicon-Dioxide Surfaces T91-043
Computation of Weakly Ionized Hypersonic Flows in Thermochemical Nonequilibrium T91-041
Nonequilibrium and Equilibrium Shock Front Radiation Measurements T91-040
Effect of Nose Bluntness on Flowfield Over Slender Bodies in Hypersonic Flows T91-025
Titan Atmospheric Composition by Hypervelocity Shock-Layer Analysis T91-024
Gas Composition Measurements in Arc Heated Flowfields via Mass Spectrometry T91-023
Effect of Electron Temperature and Impact Ionization on Martian Return AOTV Flowfields T91-001

Boiling/ Condensation

Effective Thermal Conductivity of Sintered Metal Fibers T91-080
Measurements and Correlation of Two-Phase Pressure Drop Under Microgravity Conditions T91-076
Condensation in a Mixing Layer T91-055
Subcooled Forced Convection Film Boiling Drag and Heat Transfer of a Wedge T91-052
Effect of Gravity and Noncondensable Gas Levels on Condensation in Variable Conductance Heat Pipe T91-008

Computational Heat Transfer

Vapor Condensation on Liquid Surface Due to Laminar Jet-Induced Mixing T91-087
Evaluation of an Adaptive Unstructured Remeshing Technique for Integrated Fluid-Thermal-Structural Analysis T91-086
Finite Element Eigenvalue Method for Solving Phase-Change Problems T91-085
Free Convection in a Square Cavity with a Partially Heated Wall and a Cooled Top T91-084
Effective Thermal Conductivity of Sintered Metal Fibers T91-080
Heat Transfer in Laminar Flow with Wall Axial Conduction and External Convection T91-075
Temperature Turbulence Spectrum for High-Temperature Radiating Gases T91-072
Natural Convective Flow Instability Between Horizontal Concentric Cylinders T91-059
Numerical Simulation of Time-Dependent Heat Transfer in Oscillating Pipe Flow T91-058
Heterogeneous and Nonisothermal Mixing of a Lateral Jet with a Swirling Crossflow T91-057
Numerical Modeling of Heat-Pipe Transients T91-054
Subcooled Forced Convection Film Boiling Drag and Heat Transfer of a Wedge T91-052
Three-Dimensional Spectral Radiative Heat Transfer Solutions by the Discrete-Ordinates Method T91-049
Exchange Factor Model for Radiative Heat Transfer Analysis in Rocket Engines T91-048
Adaptive Finite Element Analysis of Hypersonic Laminar Flows for Aerothermal Load Predictions T91-046
Enthalpy Method for Ablation-Type Moving Boundary Problems T91-034
Hyperbolic Heat-Conduction Problems: Numerical Simulations via Explicit Lax-Wendroff-Based Finite Element Formulations T91-033
Radiation Convection in a Thermally Developing Duct Flow of Noncircular Cross Section T91-032
Numerical Model for Turbulent Jets Impinging on a Surface with Throughflow T91-026
Hyperbolic Heat Conduction with Convection Boundary Conditions and Pulse Heating Effects T91-015

Calculation of Fully Developed Flow and Heat Transfer in Streamwise-Periodic Dimpled Channels T91-011
Vapor Condensation at the Free Surface of an Axisymmetric Liquid Mixed by a Laminar Jet T91-009
Experimental and Numerical Study of Solidification and Melting of Pure Materials T91-005

Electronics Cooling

Experimental Study of Natural Convection in Horizontal Porous Layers with Multiple Heat Sources T91-092
Convection Heat Transfer Due to Protruded Heat Sources in an Enclosure T91-031
Convective Heat Transfer with Buoyancy Effects from Thermal Sources on a Flat Plate T91-029

Forced Convection

Heat Transfer to Turbulent Radial Wall Jets T91-089
Analysis of Direct Liquid-Solid Contact Heat Transfer in Monodispersed Spray Cooling T91-088
Effective Thermal Conductivity of Sintered Metal Fibers T91-080
Heat Transfer in Laminar Flow with Wall Axial Conduction and External Convection T91-075
Radiation and Convection in Circular Pipe with Uniform Wall Heat Flux T91-074
Transient Cooling of a Square Region of Radiating Medium T91-073
Computations for Support Design of Measurements of Radiation from Low Velocity Shocked Air T91-069
Approximate Solution of the Thermal-Entry-Length Fluid Flow and Heat Transfer Characteristics in Annuli with Blowing at the Walls T91-066
Subcooled Forced Convection Film Boiling Drag and Heat Transfer of a Wedge T91-052
Adaptive Finite Element Analysis of Hypersonic Laminar Flows for Aerothermal Load Predictions T91-046
Radiation Convection in a Thermally Developing Duct Flow of Noncircular Cross Section T91-032
Convective Heat Transfer with Buoyancy Effects from Thermal Sources on a Flat Plate T91-029
Heat and Fluid Flow Processes During the Coating of a Moving Surface T91-028
Jet-Wake Thermal Characteristics of Heated Turbulent Jets in Crossflow T91-027
Numerical Model for Turbulent Jets Impinging on a Surface with Throughflow T91-026
Swirling Flow Effect on Film Cooling Performance Downstream of a Sudden Expansion T91-012
Calculation of Fully Developed Flow and Heat Transfer in Streamwise-Periodic Dimpled Channels T91-011
Response of Laser Heat Exchangers to Unsteady Spatially Varying Input T91-010

Heat Conduction

Finite Element Eigenvalue Method for Solving Phase-Change Problems T91-085
Analysis of Thermal Constriction Resistance with Adiabatic Circular Gaps T91-081
Multilayer Thermally Insulating Ceramic Contacts T91-062
Numerical Simulation of Time-Dependent Heat Transfer in Oscillating Pipe Flow T91-058
Heat Transfer Regimes in Nuclear-Reactor-Pumped Gas Lasers T91-047
Conjugate Mixed Convection-Conduction of Micropolar Fluids on a Moving Vertical Cylinder T91-037
Thermal Conductance of Two Space Station Cold Plate Attachment Techniques T91-036
Hyperbolic Heat-Conduction Problems: Numerical Simulations via Explicit Lax-Wendroff-Based Finite Element Formulations T91-033
Hyperbolic Heat Conduction with Convection Boundary Conditions and Pulse Heating Effects T91-015

Heat Pipes

Transient Experimental Investigation of Micro Heat Pipes T91-079
Detailed Model for Transient Liquid Flow in Heat Pipe Wicks T91-078
Numerical Modeling of Heat-Pipe Transients T91-054
Investigation of the Transient Characteristics of a Micro Heat Pipe T91-020
Effect of Gravity and Noncondensable Gas Levels on Condensation in Variable Conductance Heat Pipe T91-008

Laser Interaction

Heat Transfer to Turbulent Radial Wall Jets T91-089
Gas-Assisted Laser-Metal Drillng: Theoretical Model T91-004
Gas-Assisted Laser-Metal Drilling: Experimental Results T91-003

Melting/Solidification

Thermal Charging and Discharging of Sensible and Latent Heat Storage Packed Beds T91-090
Finite Element Eigenvalue Method for Solving Phase-Change Problems T91-085
Enthalpy Method for Ablation-Type Moving Boundary Problems T91-034
Heat and Fluid Flow Processes During the Coating of a Moving Surface T91-028
Thermal Conductivity Enhancement of Solid-Solid Phase-Change Materials for Thermal Storage T91-018
Freezing of a Binary Alloy Saturating a Packed Bed of Spheres T91-006
Experimental and Numerical Study of Solidification and Melting of Pure Materials T91-005

Mixed Convection

Conjugate Mixed Convection-Conduction of Micropolar Fluids on a Moving Vertical Cylinder T91-037

Convective Heat Transfer with Buoyancy Effects from Thermal Sources on a Flat Plate T91-029
Mixed Convection About a Cylinder Embedded to a Wedge in Porous Media T91-016

Modeling of Surface Roughness Effects on Glaze Ice Accretion T91-007

Natural Convection

Experimental Study of Natural Convection in Horizontal Porous Layers with Multiple Heat Sources T91-092
Free Convection in a Square Cavity with a Partially Heated Wall and a Cooled Top T91-084
Experimental Verification of Darcy-Brinkman-Forchheimer Flow Model for Natural Convection in Porous Media T91-082
Novel Passive Thermal Mixer T91-064
Natural Convective Flow Instability Between Horizontal Concentric Cylinders T91-059
Conjugate Mixed Convection-Conduction of Micropolar Fluids on a Moving Vertical Cylinder T91-037
Convection Heat Transfer Due to Protruded Heat Sources in an Enclosure T91-031
Linear Oscillatory Cellular Thermocapillary Convection in Liquid Layers T91-013
Experimental and Numerical Study of Solidification and Melting of Pure Materials T91-005

Nonintrusive Diagnostics

Low-Pressure Plasma Spectroscopic Diagnostics T91-071
Experimental Study on Confined Two-Phase Jets T91-056
Experimental and Analytical Study of Contact Melting in a Rectangular Cavity T91-051
Gas Composition Measurements in Arc Heated Flowfields via Mass Spectrometry T91-023
Optical Constants of Al_2O_3 Smoke in Propellant Flames T91-022

Radiation in Participating Media

Radiation and Convection in Circular Pipe with Uniform Wall Heat Flux T91-074
Transient Cooling of a Square Region of Radiating Medium T91-073
Temperature Turbulence Spectrum for High-Temperature Radiating Gases T91-072
Computations for Support Design of Measurements of Radiation from Low Velocity Shocked Air T91-069
Three-Dimensional Spectral Radiative Heat Transfer Solutions by the Discrete-Ordinates Method T91-049
Exchange Factor Model for Radiative Heat Transfer Analysis in Rocket Engines T91-048
Radiation Convection in a Thermally Developing Duct Flow of Noncircular Cross Section T91-032

Radiation Interchange Between Surfaces

Green's Function Solution to Radiative Heat Transfer Between Longitudinal Gray Fins T91-017

Thermal Control

Thermal Charging and Discharging of Sensible and Latent Heat Storage Packed Beds T91-090
Heat Transfer to Turbulent Radial Wall Jets T91-089
Transient Experimental Investigation of Micro Heat Pipes T91-079
Measurements and Correlation of Two-Phase Pressure Drop Under Microgravity Conditions T91-076
Multilayer Thermally Insulating Ceramic Contacts T91-062
Heat Transfer Enhancement Techniques for Space Station Cold Plates T91-061
Experimental Study of Enhanced Melting Process Under Ultrasonic Influence T91-050

Laminar Flow and Heat Transfer in a Channel with Lateral Injection T91-039
Thermal Conductance of Two Space Station Cold Plate Attachment Techniques T91-036
Metal Hydride Heat Pumps for Upgrading Spacecraft Waste Heat T91-021
Investigation of the Transient Characteristics of a Micro Heat Pipe T91-020
Thermal Conductivity Enhancement of Solid-Solid Phase-Change Materials for Thermal Storage T91-018
Green's Function Solution to Radiative Heat Transfer Between Longitudinal Gray Fins T91-017

Thermal Modeling and Analysis

Thermal Charging and Discharging of Sensible and Latent Heat Storage Packed Beds T91-090
Vapor Condensation on Liquid Surface Due to Laminar Jet-Induced Mixing T91-087
Evaluation of an Adaptive Unstructured Remeshing Technique for Integrated Fluid-Thermal-Structural Analysis T91-086
Thermocapillary Convection in a Model Float Zone T91-083
Transient Experimental Investigation of Micro Heat Pipes T91-079
Heat Transfer in Laminar Flow with Wall Axial Conduction and External Convection T91-075
Radiation and Convection in Circular Pipe with Uniform Wall Heat Flux T91-074
Transient Cooling of a Square Region of Radiating Medium T91-073
Computations for Support Design of Measurements of Radiation from Low Velocity Shocked Air T91-069
Approximate Solution of the Thermal-Entry-Length Fluid Flow and Heat Transfer Characteristics in Annuli with Blowing at the Walls T91-066
Heat Transfer to a Power Law Non-Newtonian Falling Liquid Film T91-065
Thermodynamic Properties of Adsorbed Water on Silica Gel: Exergy Losses in Adiabatic Sorption Processes T91-063
Heat Transfer Enhancement Techniques for Space Station Cold Plates T91-061
Numerical Modeling of Heat-Pipe Transients T91-054
Experimental and Analytical Study of Contact Melting in a Rectangular Cavity T91-051
Three-Dimensional Spectral Radiative Heat Transfer Solutions by the Discrete-Ordinates Method T91-049
Exchange Factor Model for Radiative Heat Transfer Analysis in Rocket Engines T91-048
Thermal Conductance of Two Space Station Cold Plate Attachment Techniques T91-036
Modification of COMMIX-1B for Simulation of Thermal- and Flowfields in Ultra-high Temperature Vapor Core Reactor T91-035
Hyperbolic Heat-Conduction Problems: Numerical Simulations via Explicit Lax-Wendroff-Based Finite Element Formulations T91-033
Investigation of the Transient Characteristics of a Micro Heat Pipe T91-020
Green's Function Solution to Radiative Heat Transfer Between Longitudinal Gray Fins T91-017
Vapor Condensation at the Free Surface of an Axisymmetric Liquid Mixed by a Laminar Jet T91-009

Thermochemistry and Chemical Kinetics

Rate Parameters for Coupled Rotation-Vibration-Dissociation Phenomena in H_2 T91-070
Aeroassist Flight Experiment Heating-Rate Sensitivity Study T91-068
Model for Oxygen Recombination on Silicon-Dioxide Surfaces T91-043
Computation of Weakly Ionized Hypersonic Flows in Thermochemical Nonequilibrium T91-041
Titan Atmospheric Composition by Hypervelocity Shock-Layer Analysis T91-024
Gas Composition Measurements in Arc Heated Flowfields via Mass Spectrometry T91-023
Effect of Electron Temperature and Impact Ionization on Martian Return AOTV Flowfields T91-001

Thermophysical Properties

Practical Expressions for Thermodynamic and Transport Properties of Commonly Used Fluids T91-077
Thermodynamic Properties of Adsorbed Water on Silica Gel: Exergy Losses in Adiabatic Sorption Processes T91-063
Heat Transfer Enhancement Techniques for Space Station Cold Plates T91-061
Experimental and Analytical Study of Contact Melting in a Rectangular Cavity T91-051
Optical Constants of Al_2O_3 Smoke in Propellant Flames T91-022
Thermal Conductivity Enhancement of Solid-Solid Phase-Change Materials for Thermal Storage T91-018

Author Index

Al-Sharif, M., T91-076
Albagli, D., T91-056
Ambrose, J. H., T91-078
Anghaie, S., T91-035
Arimilli, R. V., T91-005
Asaba, M., T91-014
Asako, Y., T91-014
Babus'Haq, R. F., T91-062
Beam, J. E., T91-078
Berkowitz, B., T91-007
Blake, D. J., T91-023
Bouslog, S. A., T91-068
Bowman, W. J., T91-054
Brewster, M. Q., T91-003, T91-004, T91-022
Brum, N. C. L., T91-075
Buelow, P. E., T91-042
Campo, A., T91-032
Candler, G. V., T91-041, T91-069
Cao, W-Z., T91-006
Carlson, L. A., T91-001
Chang, S. S., T91-012
Chang, W. S., T91-079, T91-080, T91-085
Chao, Y., T91-057
Chappidi, P. R., T91-052
Chen, C., T91-037
Chen, I., T91-076
Chen, L., T91-031
Chen, Z. Q., T91-051
Choi, H., T91-021
Choi, K., T91-088
Choi, K. J., T91-050
Choudhury, D., T91-011
Chow, L. C., T91-078, T91-085
Collins, R. J., T91-069
Colovin, J. E., Jr., T91-068
Cotta, R. M., T91-075
Cousins, A. K., T91-010
Curry, D. M., T91-068
Dash, S. K., T91-053
Deacon, H. J., Jr., T91-091
Dechaumphai, P., T91-086
Delcorio, B., T91-088
Dong, Z. F., T91-051
Douglas, W. J. M., T91-026
Downing, R., T91-076
Ebadian, M. A., T91-032, T91-051
Eddy, T. L., T91-071
Elder, J., T91-067
Faghri, A., T91-066
Faghri, M., T91-014
Fant, D. B., T91-059
Ferziger, J., T91-019
Fiveland, W. A., T91-049
Fletcher, L. S., T91-036, T91-061
Frankel, J. I., T91-017
Furukawa, M., T91-077
Gally, T. A., T91-001
Gau, C., T91-012
Gibson, C., T91-062
Gillespie, W., T91-040
Glass, D. E., T91-015
Gorla, R. S. R., T91-065
Guedes, R. O. C., T91-075
Gunnerson, F. S., T91-052
Guo, K., T91-013
Gupta, N., T91-002
Hammad, K. J., T91-048
Han, L. S., T91-089
Hansman, R. J., Jr., T91-007
Hasan, M. M., T91-087
Heaton, H. S., T91-039
Ho, W., T91-057
Honda, T., T91-038
Hong, J. S., T91-050
Hsieh, S., T91-060
Hsu, T., T91-037
Huang, J. M., T91-074
Hunter, L. W., T91-034
Hyer, J. R., T91-083
Idem, S. A., T91-064
Ievalts, J. O., T91-042
Igarashi, S., T91-038
Inger, G. R., T91-067
Ingham, D. B., T91-016
Jafarpur, K., T91-030
Jaluria, Y., T91-029
Jamaluddin, A. S., T91-049
Jankowski, D. F., T91-083
Johnson, D. C., T91-089
Jumper, E. J., T91-043
Karki, K. C., T91-011
Kennedy, I. M., T91-055
Kennedy, L. A., T91-090
Keshock, E. G., T91-076
Ketkar, S. P., T91-005
Keyhani, M., T91-031
Kladias, N., T91-082
Kobayashi, Y., T91-008
Kulacki, F. A., T91-092
Kumar, A., T91-025
Kurzweg, U. H., T91-058
Kuttler, J. R., T91-034
Lai, F. C., T91-092
Lawrence, S. L., T91-042
Lee, S., T91-030
Levin, D. A., T91-069
Levy, Y., T91-056
Lin, C., T91-009
Lin, C. S., T91-087
Lin, J. D., T91-074
Lin, T., T91-060
MacCormack, R. W., T91-041
Mantle, W. J., T91-080
Matsue, T., T91-008
Micol, J. R., T91-045
Mills, A. F., T91-021
Moin, P., T91-019
Morehouse, J. H., T91-018
Mueller, S. R., T91-068
Mujumdar, A. S., T91-026
Munukutla, S. S., T91-064
Nakamura, H., T91-014
Namburu, R. R., T91-033
Nanbu, K., T91-038
Naraghi, M. H. N., T91-048
Neitzel, G. P., T91-083
Nelson, H. F., T91-024
O'Callaghan, P. W., T91-062
Okumura, A., T91-008
Oosthuizen, P. H., T91-084
Pandey, B. D., T91-002
Parang, M., T91-005
Park, C., T91-024
Parry, D. L., T91-022
Pasamehmetoglu, K. O., T91-052
Patel, R. S., T91-003, T91-004
Paul, J. T., T91-084
Peterson, G. P., T91-020, T91-036, T91-061, T91-079
Piomelli, U., T91-019
Pitts, D. R., T91-031
Pletcher, R. H., T91-027
Polat, S., T91-026
Pop, I., T91-016
Potapczuk, M., T91-007
Poulikakos, D., T91-006, T91-028
Prasad, V., T91-082
Probert, S. D., T91-062
Prusa, J., T91-059
Railkar, S. B., T91-015
Ramakrishnan, R., T91-046
Rezaian, A., T91-028
Rochelle, W. C., T91-068
Rothmayer, A., T91-059
Sadhal, S. S., T91-081
San, J.-Y., T91-063
Schwenke, D. W., T91-070
Scott, C. D., T91-068
Sengupta, S. P., T91-053
Seward, W. A., T91-043
Sharma, R. R., T91-002
Sharma, S. P., T91-040, T91-070
Sharma, V. D., T91-002
Sherif, S. A., T91-027
Siegel, R., T91-073
Silvestri, J. J., T91-017
Singh, D. J., T91-025
Som, S. K., T91-053
Son, C. H., T91-018
Soufiani, A., T91-072
Sözen, M., T91-090
Starks, G., T91-036
Tamma, K. K., T91-015, T91-033
Tannehill, J. C., T91-042
Tewari, S. S., T91-029
Thomas, S., T91-066
Thornton, E. A., T91-046
Ting, P. C., T91-068
Tio, K., T91-081
Tiwari, S. N., T91-025
Torczynski, J. R., T91-047
Vafai, K., T91-090
van Heiningen, A. R. P., T91-026
Wallace, D. A., T91-091
Wang, Q. J., T91-051
Webb, B. W., T91-039
Whiting, E. E., T91-024
Wieting, A. R., T91-046
Willey, R. J., T91-023
Wilmoth, R. G., T91-044
Worek, W. M., T91-063
Wu, D., T91-020, T91-079
Yamaguchi, K., T91-007
Yang, G., T91-032
Yang, W., T91-013
Yih, K. A., T91-012
Yovanovich, M. M., T91-030
Zhang, J. G., T91-035, T91-058
Zheng, W., T91-063
Zhong, J., T91-085

Chronological Index

T91-001 Effect of Electron Temperature and Impact Ionization on Martian Return AOTV Flowfields. Leland A. Carlson and Thomas A. Gally, *Texas A&M University* (5, 1, p. 9) Article based on AIAA Paper 89-1729

T91-002 Progressive Wave Analysis Describing Wave Motions in Radiative Magnetogasdynamics. Neelam Gupta, *Banaras Hindu University, India*; Vishnu D. Sharma, *Indian Institute of Technology*; Bishun D. Pandey and Rishi R. Sharma, *Ohio State University at Marion* (5, 1, p. 21) Article based on AIAA Paper 89-1917

T91-003 Gas-Assisted Laser-Metal Drilling: Experimental Results. R. S. Patel and M. Q. Brewster, *University of Illinois at Urbana-Champaign* (5, 1, p. 26) Article

T91-004 Gas-Assisted Laser-Metal Drilling: Theoretical Model. R. S. Patel and M. Q. Brewster, *University of Illinois at Urbana-Champaign* (5, 1, p. 32) Article

T91-005 Experimental and Numerical Study of Solidification and Melting of Pure Materials. Satish P. Ketkar, Masood Parang and Rao V. Arimilli, *University of Tennessee* (5, 1, p. 40) Article

T91-006 Freezing of a Binary Alloy Saturating a Packed Bed of Spheres. W-Z. Cao and D. Poulikakos, *University of Illinois at Chicago* (5, 1, p. 46) Article

T91-007 Modeling of Surface Roughness Effects on Glaze Ice Accretion. R. John Hansman Jr. and Keiko Yamaguchi, *Massachusetts Institute of Technology*; Brian Berkowitz, *Sverdrup Technology, Inc.*; and Mark Potapczuk, *NASA Lewis Research Center* (5, 1, p. 54) Article based on AIAA Paper 89-0734

T91-008 Effect of Gravity and Noncondensable Gas Levels on Condensation in Variable Conductance Heat Pipe. Yasunori Kobayashi, Akira Okumura and Toshihisa Matsue, *Institute of Engineering Mechanics, University of Tsukuba, Japan* (5, 1, p. 61) Article based on AIAA Paper 89-1747

T91-009 Vapor Condensation at the Free Surface of an Axisymmetric Liquid Mixed by a Laminar Jet. Chin-Shun Lin, *Analex Corporation, NASA Lewis Research Center* (5, 1, p. 69) Article

T91-010 Response of Laser Heat Exchangers to Unsteady Spatially Varying Input. A. K. Cousins, *Spectra Technology, Inc.* (5, 1, p. 76) Article

T91-011 Calculation of Fully Developed Flow and Heat Transfer in Streamwise-Periodic Dimpled Channels. Dipankar Choudhury, *Creare Inc.*; and Kailash C. Karki, *University of Minnesota* (5, 1, p. 81) Article

T91-012 Swirling Flow Effect on Film Cooling Performance Downstream of a Sudden Expansion. C. Gau, K. A. Yih and S. S. Chang, *National Cheng Kung University, Taiwan, ROC* (5, 1, p. 89) Article

T91-013 Linear Oscillatory Cellular Thermocapillary Convection in Liquid Layers. Kai-Hua Guo, *Chinese Academy of Sciences, PRC*; and Wen-Jei Yang, *University of Michigan* (5, 1, p. 96) Article

T91-014 Numerical Solution of Convection-Diffusion Problems in Irregular Domains Mapped onto a Circle. Makoto Asaba, Yutaka Asako and Hiroshi Nakamura, *Tokyo Metropolitan University, Japan*; and Mohammad Faghri, *University of Rhode Island* (5, 1, p. 103) Article

T91-015 Hyperbolic Heat Conduction with Convection Boundary Conditions and Pulse Heating Effects. David E. Glass, *Analytical Services & Materials*; Kumar K. Tamma and Sudhir B. Railkar, *University of Minnesota* (5, 1, p. 110) Article based on AIAA Paper 89-1683

T91-016 Mixed Convection About a Cylinder Embedded to a Wedge in Porous Media. D. B. Ingham, *University of Leeds, England, UK*; and I. Pop, *University of Cluj, Romania* (5, 1, p. 117) Technical Note

T91-017 Green's Function Solution to Radiative Heat Transfer Between Longitudinal Gray Fins. J. I. Frankel and J. J. Silvestri, *Florida Institute of Technology* (5, 1, p. 120) Technical Note

T91-018 Thermal Conductivity Enhancement of Solid-Solid Phase-Change Materials for Thermal Storage. C. H. Son and J. H. Morehouse, *University of South Carolina* (5, 1, p. 122) Technical Note based on AIAA Paper 89-0240

T91-019 Large Eddy Simulation of the Flow in a Transpired Channel. Ugo Piomelli, *University of Maryland*; Parviz Moin and Joel Ferziger, *Stanford University* (5, 1, p. 124) Technical Note

T91-020 Investigation of the Transient Characteristics of a Micro Heat Pipe. D. Wu and G. P. Peterson, *Texas A&M University* (5, 2, p. 129) Article based on AIAA Paper 90-0060

T91-021 Metal Hydride Heat Pumps for Upgrading Spacecraft Waste Heat. Hae-Jin Choi and Anthony F. Mills, *University of California, Los Angeles* (5, 2, p. 135) Article

T91-022 Optical Constants of Al_2O_3 Smoke in Propellant Flames. David L. Parry and M. Quinn Brewster, *University of Illinois at Urbana-Champaign* (5, 2, p. 142) Article

T91-023 Gas Composition Measurements in Arc Heated Flowfields via Mass Spectrometry. Ronald J. Willey and David J. Blake, *Northeastern University* (5, 2, p. 150) Article

T91-024 Titan Atmospheric Composition by Hypervelocity Shock-Layer Analysis. H. F. Nelson, *University of Missouri—Rolla*; Chul Park, *NASA Ames Research Center*; and Ellis E. Whiting, *Eloret Institute* (5, 2, p. 157) Article based on AIAA Paper 89-1770

T91-025 Effect of Nose Bluntness on Flowfield Over Slender Bodies in Hypersonic Flows. D. J. Singh, *Old Dominion University*; A. Kumar, *NASA Langley Research Center*; and S. N. Tiwari, *Old Dominion University* (5, 2, p. 166) Article based on AIAA Paper 89-0270

T91-026 Numerical Model for Turbulent Jets Impinging on a Surface with Throughflow. S. Polat, A. S. Mujumdar, A. R. P. van Heiningen and W. J. M. Douglas, *McGill University, Canada* (5, 2, p. 172) Article

T91-027 Jet-Wake Thermal Characteristics of Heated Turbulent Jets in Crossflow. S. A. Sherif, *University of Miami*; and R. H. Pletcher, *Iowa State University* (5, 2, p. 181) Article based on AIAA Paper 88-3725 CP888

T91-028 Heat and Fluid Flow Processes During the Coating of a Moving Surface. A. Rezaian and D. Poulikakos, *University of Illinois at Chicago* (5, 2, p. 192) Article

T91-029 Convective Heat Transfer with Buoyancy Effects from Thermal Sources on a Flat Plate. S. S. Tewari and Y. Jaluria, *Rutgers—The State University of New Jersey* (5, 2, p. 199) Article

T91-030 Effects of Geometry and Orientation on Laminar Natural Convection from Isothermal Bodies. S. Lee, M. M. Yovanovich and K. Jafarpur, *University of Waterloo, Canada* (5, 2, p. 208) Article based on AIAA Paper 89-1662

T91-031 Convection Heat Transfer Due to Protruded Heat Sources in an Enclosure. L. Chen, *Chongqing University, PRC*; M. Keyhani and D. R. Pitts, *University of Tennessee-Knoxville* (5, 2, p. 217) Article

T91-032 Radiation Convection in a Thermally Developing Duct Flow of Noncircular Cross Section. G. Yang, M. A. Ebadian and A. Campo, *Florida International University* (5, 2, p. 224) Article

T91-033 Hyperbolic Heat-Conduction Problems: Numerical Simulations via Explicit Lax-Wendroff-Based Finite Element Formulations. Kumar K. Tamma and Raju R. Namburu, *Institute of Technology, University of Minnesota* (5, 2, p. 232) Article based on AIAA Paper 89-1686

T91-034 Enthalpy Method for Ablation-Type Moving Boundary Problems. Lawrence W. Hunter and James R. Kuttler, *The Johns Hopkins University* (5, 2, p. 240) Technical Note

T91-035 Modification of COMMIX-1B for Simulation of Thermal- and Flowfields in Ultrahigh Temperature Vapor Core Reactor. James G. Zhang and Samim Anghaie, *University of Florida* (5, 2, p. 242) Technical Note based on AIAA Paper 89-1990 CP895

T91-036 Thermal Conductance of Two Space Station Cold Plate Attachment Techniques. G. P. Peterson, G. Starks and L. S. Fletcher, *Texas A&M University* (5, 2, p. 246) Technical Note based on AIAA Paper 89-1703

T91-037 Conjugate Mixed Convection-Conduction of Micropolar Fluids on a Moving Vertical Cylinder. Cha'o-Kuang Chen and Tsan-Hui Hsu, *National Cheng Kung University, Taiwan, ROC* (5, 2, p. 248) Technical Note

T91-038 Probability of Inelastic Collisions for the Larsen-Borgnakke Model to the Monte Carlo Simulation Method. K. Nanbu, T. Honda and S. Igarashi, *Tohoku University, Japan* (5, 2, p. 251) Technical Note

T91-039 Laminar Flow and Heat Transfer in a Channel with Lateral Injection. B. W. Webb and H. S. Heaton, *Brigham Young University* (5, 2, p. 253) Technical Note

T91-040 Nonequilibrium and Equilibrium Shock Front Radiation Measurements. Surendra P. Sharma, *NASA Ames Research Center*; and Walter Gillespie, *Stanford University* (5, 3, p. 257) Article based on AIAA Paper 90-0139

T91-041 Computation of Weakly Ionized Hypersonic Flows in Thermochemical Nonequilibrium. Graham V. Candler, *North Carolina State University*; and Robert W. MacCormack, *Stanford University* (5, 3, p. 266) Article based on AIAA Paper

T91-042 Three-Dimensional, Upwind, Parabolized Navier-Stokes Code for Chemically Reacting Flows. Philip E. Buelow, John C. Tannehill and John O. Ievalts, *Engineering Analysis, Inc.*; and Scott L. Lawrence, *NASA Ames Research Center* (5, 3, p. 274) Article based on AIAA Paper 90-0394

T91-043 Model for Oxygen Recombination on Silicon-Dioxide Surfaces. W. A. Seward, *Air Force Institute of Technology, Wright-Patterson AFB*; and E. J. Jumper, *University of Notre Dame* (5, 3, p. 284) Article based on AIAA Paper 90-0054

T91-044 Direct Simulation Monte Carlo Analysis of Rarefied Flows on Parallel Processors. Richard G. Wilmoth, *NASA Langley Research Center* (5, 3, p. 292) Article based on AIAA Paper 89-1666

T91-045 Experimental and Predicted Pressure and Heating Distributions for Aeroassist Flight Experiment Vehicle. John R. Micol, *NASA Langley Research Center* (5, 3, p. 301) Article based on AIAA Paper 89-1731

T91-046 Adaptive Finite Element Analysis of Hypersonic Laminar Flows for Aerothermal Load Predictions. R. Ramakrishnan, *Old Dominion University*; E. A. Thornton, *University of Virginia*; and A. R. Wieting, *NASA Langley Research Center* (5, 3, p. 308) Article

T91-047 Heat Transfer Regimes in Nuclear-Reactor-Pumped Gas Lasers. J. R. Torczynski, *Sandia National Laboratories* (5, 3, p. 318) Article

T91-048 Exchange Factor Model for Radiative Heat Transfer Analysis in Rocket Engines. K. J. Hammad and M. H. N. Naraghi, *Manhattan College* (5, 3, p. 327) Article

T91-049 Three-Dimensional Spectral Radiative Heat Transfer Solutions by the Discrete-Ordinates Method. W. A. Fiveland and A. S. Jamaluddin, *Babcock & Wilcox Company* (5, 3, p. 335) Article

T91-050 Experimental Study of Enhanced Melting Process Under Ultrasonic Influence. K. J. Choi and J. S. Hong, *University of Illinois at Chicago* (5, 3, p. 340) Article

T91-051 Experimental and Analytical Study of Contact Melting in a Rectangular Cavity. Z. F. Dong, Z. Q. Chen and Q. J. Wang, *Xi'an Jiaotong University, PRC*; and M. A. Ebadian, *Florida International University* (5, 3, p. 347) Article

T91-052 Subcooled Forced Convection Film Boiling Drag and Heat Transfer of a Wedge. P. R. Chappidi, *Los Alamos National Laboratory*; F. S. Gunnerson, *University of Central Florida*; and K. O. Pasamehmetoglu, *Los Alamos National Laboratory* (5, 3, p. 355) Article based on AIAA Paper 90-1724

T91-053 Transport Processes and Associated Irreversibilities in Droplet Evaporation. S. K. Dash, S. P. Sengupta and S. K. Som, *Indian Institute of Technology* (5, 3, p. 366) Article

T91-054 Numerical Modeling of Heat-Pipe Transients. W. Jerry Bowman, *U.S. Air Force Academy* (5, 3, p. 374) Article based on AIAA Paper 90-0061

T91-055 Condensation in a Mixing Layer. Ian M. Kennedy, *University of California, Davis* (5, 3, p. 380) Article

T91-056 Experimental Study on Confined Two-Phase Jets. D. Albagli and Y. Levy, *Technion—Israel Institute of Technology* (5, 3, p. 387) Article

T91-057 Heterogeneous and Nonisothermal Mixing of a Lateral Jet with a Swirling Crossflow. Yei-Chin Chao, *National Cheng Kung University, Taiwan, ROC*; and Wu-Chi Ho, *Industrial Technology Research Institute, Taiwan, ROC* (5, 3, p. 394) Article based on AIAA Paper 88-3190

T91-058 Numerical Simulation of Time-Dependent Heat Transfer in Oscillating Pipe Flow. J. G. Zhang and U. H. Kurzweg, *University of Florida* (5, 3, p. 401) Article based on AIAA Paper 90-1774

T91-059 Natural Convective Flow Instability Between Horizontal Concentric Cylinders. D. B. Fant, *U.S. Air Force Office of Scientific Research*; A. Rothmayer and J. Prusa, *Iowa State University* (5, 3, p. 407) Article

T91-060 Mixed Convection of Opposing/Assisting Flows in Vertical Channels with Discrete Asymmetrically Heated Ribs. Tsang-Yuan Lin and Shou-Shing Hsieh, *National Sun Yat-Sen University, Taiwan, ROC* (5, 3, p. 415) Article

T91-061 Heat Transfer Enhancement Techniques for Space Station Cold Plates. G. P. Peterson and L. S. Fletcher, *Texas A&M University* (5, 3, p. 423) Article

T91-062 Multilayer Thermally Insulating Ceramic Contacts. R. F. Babus'Haq, C. Gibson, P. W. O'Callaghan and S. D. Probert, *Cranfield Institute of Technology, England, UK* (5, 3, p. 429) Article based on AIAA Paper 89-0430

T91-063 Thermodynamic Properties of Adsorbed Water on Silica Gel: Exergy Losses in Adiabatic Sorption Processes. W. M. Worek and W. Zheng, *University of Illinois at Chicago*; and J.-Y. San, *National Chung-Hsing University, Taiwan, ROC* (5, 3, p. 435) Article

T91-064 Novel Passive Thermal Mixer. Steven A. Idem, *Tennessee Technological University;* and Sastry S. Munukutla, *Tennessee Technological University* (5, 3, p. 441) Technical Note based on AIAA Paper 90-1789

T91-065 Heat Transfer to a Power Law Non-Newtonian Falling Liquid Film. Rama Subba Reddy Gorla, *Cleveland State University* (5, 3, p. 444) Technical Note

T91-066 Approximate Solution of the Thermal-Entry-Length Fluid Flow and Heat Transfer Characteristics in Annuli with Blowing at the Walls. A. Faghri and S. Thomas, *Wright State University* (5, 3, p. 446) Technical Note

T91-067 Recombination-Dominated Nonequilibrium Heat Transfer to Arbitrarily Catalytic Hypersonic Vehicles. G. R. Inger and J. Elder, *Iowa State University* (5, 4, p. 449) Article based on AIAA Paper 88-1859

T91-068 Aeroassist Flight Experiment Heating-Rate Sensitivity Study. W. C. Rochelle, P. C. Ting, S. A. Bouslog, S. R. Mueller and J. E. Colovin Jr., *Lockheed Engineering & Sciences Company*; D. M. Curry and C. D. Scott, *NASA Johnson Space Center* (5, 4, p. 456) Article based on AIAA Paper 89-1733

T91-069 Computations for Support Design of Measurements of Radiation from Low Velocity Shocked Air. D. A. Levin, *Institute for Defense Analyses*; Collins, R. J., *University of Minnesota*; and G. V. Candler, *North Carolina State University* (5, 4, p. 463) Article

T91-070 Rate Parameters for Coupled Rotation-Vibration-Dissociation Phenomena in H_2. Surendra P. Sharma and David W. Schwenke, *NASA Ames Research Center* (5, 4, p. 469) Article based on AIAA Paper 89-1738

T91-071 Low-Pressure Plasma Spectroscopic Diagnostics. T. L. Eddy, *Georgia Institute of Technology* (5, 4, p. 481) Article based on AIAA Paper 89-2830

T91-072 Temperature Turbulence Spectrum for High-Temperature Radiating Gases. A. Soufiani, *Ecole Centrale Paris, France* (5, 4, p. 489) Article

T91-073 Transient Cooling of a Square Region of Radiating Medium. Robert Siegel, *NASA Lewis Research Center* (5, 4, p. 495) Article

T91-074 Radiation and Convection in Circular Pipe with Uniform Wall Heat Flux. J. M. Huang and J. D. Lin, *National Chiao Tung University, Taiwan, ROC* (5, 4, p. 502) Article

T91-075 Heat Transfer in Laminar Flow with Wall Axial Conduction and External Convection. R. O. C. Guedes, R. M. Cotta and N. C. L. Brum, *Universidade Federal do Rio de Janeiro, Brazil* (5, 4, p. 508) Article

T91-076 Measurements and Correlation of Two-Phase Pressure Drop Under Microgravity Conditions. I. Chen and R. Downing, *Sundstrand Corporation*; E. G. Keshock and M. Al-Sharif, *University of Tennessee* (5, 4, p. 514) Article based on AIAA Paper 89-0074

T91-077 Practical Expressions for Thermodynamic and Transport Properties of Commonly Used Fluids. Masao Furukawa, *National Space Development Agency, Japan* (5, 4, p. 524) Article

T91-078 Detailed Model for Transient Liquid Flow in Heat Pipe Wicks. J. H. Ambrose and L. C. Chow, *University of Kentucky*; and J. E. Beam, *Wright Research and Development Center, Wright-Patterson AFB* (5, 4, p. 532) Article based on AIAA Paper 90-0062

T91-079 Transient Experimental Investigation of Micro Heat Pipes. D. Wu and G. P. Peterson, *Texas A&M University*; and W. S. Chang, *Wright Research and Development Center, Wright-Patterson AFB* (5, 4, p. 539) Article based on AIAA Paper 90-1791

T91-080 Effective Thermal Conductivity of Sintered Metal Fibers. W. Joseph Mantle and Won Soon Chang, *Wright Laboratory, Wright-Patterson AFB* (5, 4, p. 545) Article

T91-081 Analysis of Thermal Constriction Resistance with Adiabatic Circular Gaps. Kek-Kiong Tio and Satwindar S. Sadhal, *University of Southern California* (5, 4, p. 550) Article

T91-082 Experimental Verification of Darcy-Brinkman-Forchheimer Flow Model for Natural Convection in Porous Media. N. Kladias and V. Prasad, *Columbia University* (5, 4, p. 560) Article

T91-083 Thermocapillary Convection in a Model Float Zone. J. R. Hyer, D. F. Jankowski and G. P. Neitzel, *Arizona State University* (5, 4, p. 577) Article based on AIAA Paper 90-0406

T91-084 Free Convection in a Square Cavity with a Partially Heated Wall and a Cooled Top. P. H. Oosthuizen and J. T. Paul, *Queen's University, Canada* (5, 4, p. 583) Article based on AIAA Paper 90-1722

T91-085 Finite Element Eigenvalue Method for Solving Phase-Change Problems. Jiakang Zhong, *Zhejiang University, PRC*; Louis C. Chow, *University of Kentucky*; and Won Soon Chang, *Wright Laboratory, Wright-Patterson AFB* (5, 4, p. 589) Article based on AIAA Paper 90-0544

T91-086 Evaluation of an Adaptive Unstructured Remeshing Technique for Integrated Fluid-Thermal-Structural Analysis. Pramote Dechaumphai, *NASA Langley Research Center* (5, 4, p. 599) Article based on AIAA Paper 90-0556

T91-087 Vapor Condensation on Liquid Surface Due to Laminar Jet-Induced Mixing. C. S. Lin, *Analex Corporation, NASA Lewis Research Center*; and M. M. Hasan, *NASA Lewis Research Center* (5, 4, p. 607) Article based on AIAA Paper 90-0354

T91-088 Analysis of Direct Liquid-Solid Contact Heat Transfer in Monodispersed Spray Cooling. Brian Delcorio and Kyung-Jin Choi, *University of Illinois at Chicago* (5, 4, p. 613) Article

T91-089 Heat Transfer to Turbulent Radial Wall Jets. David C. Johnson, *Massachusetts Institute of Technology*; and Lit S. Han, *Lockheed Missiles and Space Company* (5, 4, p. 621) Technical Note

T91-090 Thermal Charging and Discharging of Sensible and Latent Heat Storage Packed Beds. Mehmet Sözen, Kambiz Vafai and Lawrence A. Kennedy, *Ohio State University* (5, 4, p. 623) Technical Note

T91-091 Convective Heat Transfer Across a Duct with Asymmetric Blowing. H. J. Deacon Jr. and D. A. Wallace, *The Aerospace Corporation* (5, 4, p. 625) Technical Note

T91-092 Experimental Study of Natural Convection in Horizontal Porous Layers with Multiple Heat Sources. F. C. Lai and F. A. Kulacki, *Colorado State University* (5, 4, p. 627) Technical Note based on AIAA Paper 90-0257